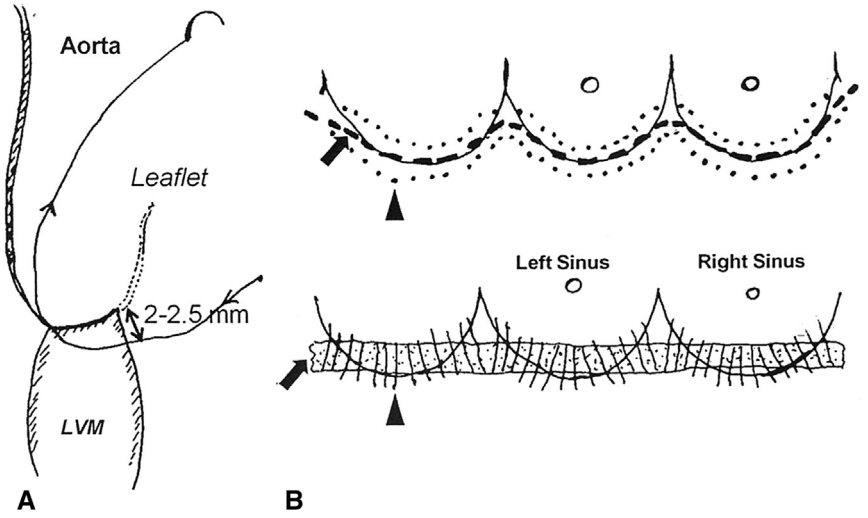

FIGURE 1. A, En bloc stitch in simple interrupted suturing for aortic valve replacement. B, Arrangement of the prosthetic sewing ring (*black arrow*) and the interrupted suture line (*arrowhead*) along the leaflet attachment. *LVM*, Left ventricular muscle.

SIMPLE INTERRUPTED SUTURING FOR AORTIC VALVE REPLACEMENT IN A SMALL AORTIC ANNULUS

To the Editor:

We read with great interest the article by Tabata and colleagues[1] on simple interrupted suturing (SIS) for increasing valve performance after aortic valve replacement (AVR) in a small aortic annulus. We congratulate them on simplifying AVR without rolling subvalvular tissue by revival of the use of the SIS technique. Although the article looks simple, it provides much information. Supra-annular prostheses have been used for AVR to overcome patient-prosthesis mismatch, but the advantages could be offset by subvalvular rolling of annular tissue or pledgets.[1] The annular circumference can be reduced when the pledgeted mattress sutures (ventricular pledgeted or everting pledgeted) are placed, but this does not occur with SIS. Recently, we have used SIS frequently because of its advantages.

Tabata and colleagues[1] did not describe the SIS technique in detail, however, which may be more important for prevention of paravalvular leaks and placement of a larger prosthesis. Each stitch has to be deep and centrifugally far from below the leaflet attachment, because the strong annular tissue is not found in the leaflet attachments of the aortic valve. In the leaflet nadirs, the stitches have to be passed from the ventricular muscle or aortic-mitral fibrous continuity from 2 to 2.5 mm below the leaflet attachment to the transition of the connective tissue and smooth muscle in the aortic sinus (Figure 1, *A*). We call this an *en bloc stitch*.[2] The leaflet attachment, which is the subvalvular rolling tissue in ventricular pledgeted mattress suturing, is buried in the sutures. The outer margin of the sewing ring is located at the transition of the muscular tissue and the connective tissue in the sinus wall, and we can place as large a prosthesis as necessary. The sewing ring is attached to the lower border of the sinus wall above the nadirs and to the interleaflet triangle below the commissures (Figure 1, *B*). As a result, both the native leaflet attachments and the sewing ring maintain their structural configuration. This can only be achieved with SIS or continuous suturing. Another surgical point is the number of stitches. Most AVR prostheses have narrow sewing rings. The stitch number must be at least double the number of traditional mattress sutures. An interval of 2 to 2.5 mm between stitches can eradicate all gaps between the aortic root base and prosthesis. From 26 to 32 2-0 polyester sutures are thus required, and the tying time is not extended because of smooth tension tying with no pledget. Tabata and colleagues[1] could prevent even their small reported number of postoperative paravalvular leaks by using more stitches with the en bloc suturing technique.

Tabata and colleagues[1] changed their suturing technique, cautiously observing the short-term outcomes of SIS. We congratulate them on clarifying the advantages of SIS for AVR in a small aortic annulus and suggest that the en bloc stitch technique and more stitches could make AVR more reliable with a mechanical valve or bioprosthesis.

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Notice of Correction

Re: Khalpey Z, Sydow N, Slepian MJ, Poston R. How to do it: Thoracoscopic left ventricular assist device implantation using robot assistance. *J Thorac Cardiovasc Surg*. 2014;147:1423-5.

In the above-mentioned article, National Institutes of Health funding was inadvertently listed in the disclosure line. The corrected disclosure statement is printed below.

Disclosures: Dr Poston is supported by grants from Intuitive Surgical Inc. All other authors have nothing to disclose with regard to commercial support.